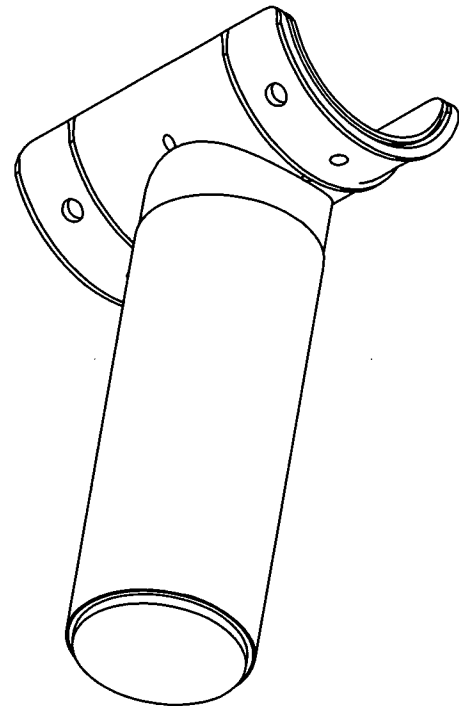
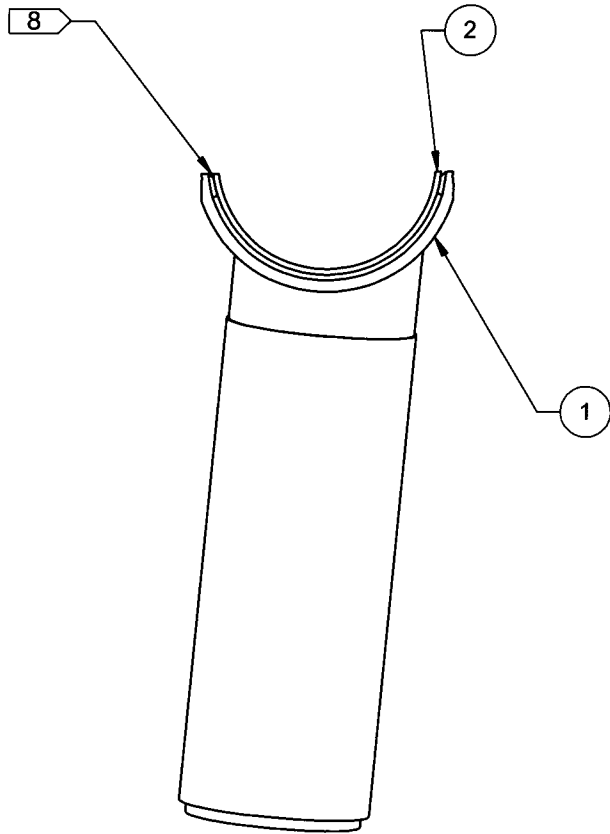


ITEM	QTY -041	P/N	DESCRIPTION
	X	D5149-041	FWD STEP ASSEMBLY
1	1	D5149-041W	FWD STEP BASE WELDMENT
2	1	D5151-1	CLAMP CUSHION



**D5149-041 FWD STEP ASSEMBLY**

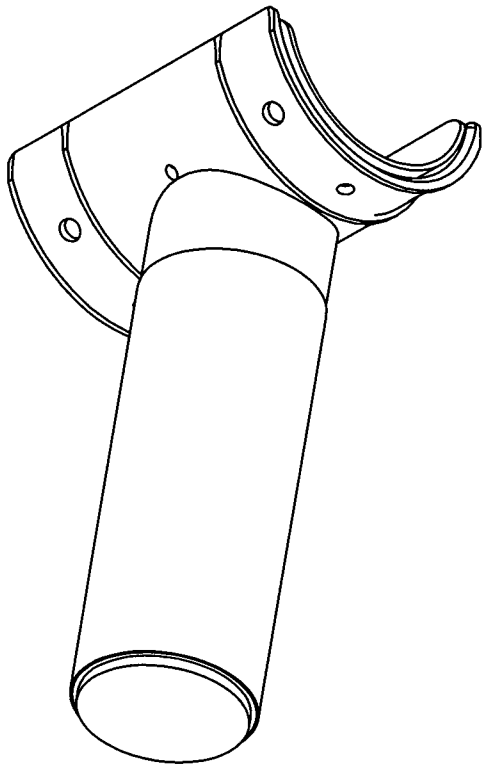
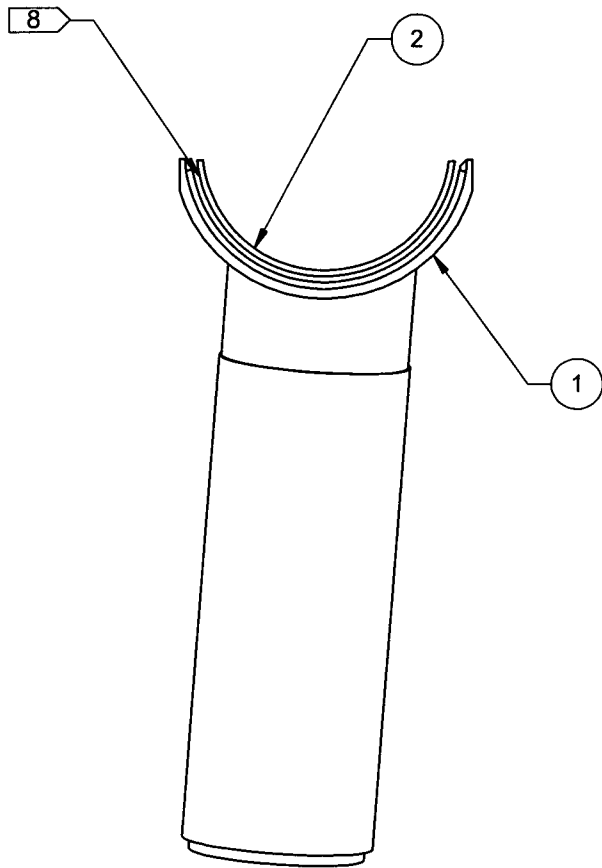
**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.69 lbs
- 8) BOND D5151-1 CUSHION TO D5149-041W BASE WELDMENT USING 3M 1300L ADHESIVE

D	DIAMETER OF D5149-5 CAP IS NOW 1.88 WAS 2.00 TO EASE WELDING PROCEDURE, UPDATE TOLERANCES	AP	15.10.20
C	ANTISKID FINISH DIM MODIFIED DUE TO INTERFERENCE WITH WELD (SHT 3 & 4)	AP	15.04.27
B	COMPLETE RE-DESIGN, SEE PREVIOUS REV FOR DETAILS	DB	15.01.14
A	NEW ISSUE	DB	14.10.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	D5149	SHEET 1 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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2015-11-04  
ECN 15-642  
APPROVED

ITEM	QTY -043	P/N	DESCRIPTION
	X	D5149-043	AFT STEP ASSEMBLY
1	1	D5149-043W	AFT STEP BASE WELDMENT
2	1	D5151-3	CLAMP CUSHION



**D5149-043 AFT STEP ASSEMBLY**

NOTES:

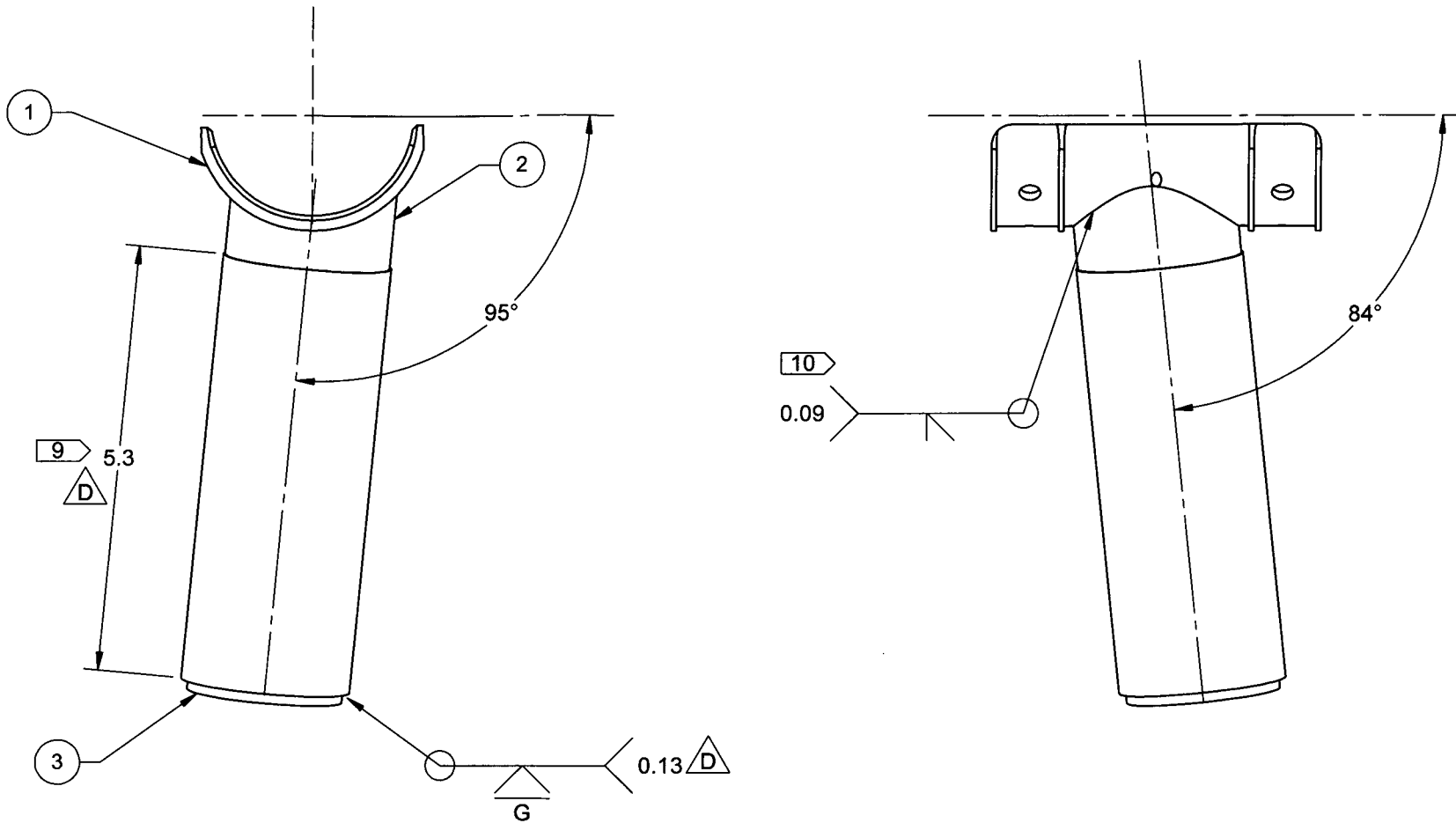
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.87 lbs
- 8) BOND D5151-3 CUSHION TO D5149-043W BASE WELDMENT USING 3M 1300L ADHESIVE

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2015 -11- 0 4

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DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	D5149	SHEET 2 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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ITEM	QTY-041W	P/N	DESCRIPTION
	X	D5149-041W	FWD STEP BASE WELDMENT
1	1	D5149-1	FWD STEP BASE
2	1	D5149-3	FWD STEP
3	1	D5149-5	STEP CAP



**D5149-041W FWD STEP BASE WELDMENT**

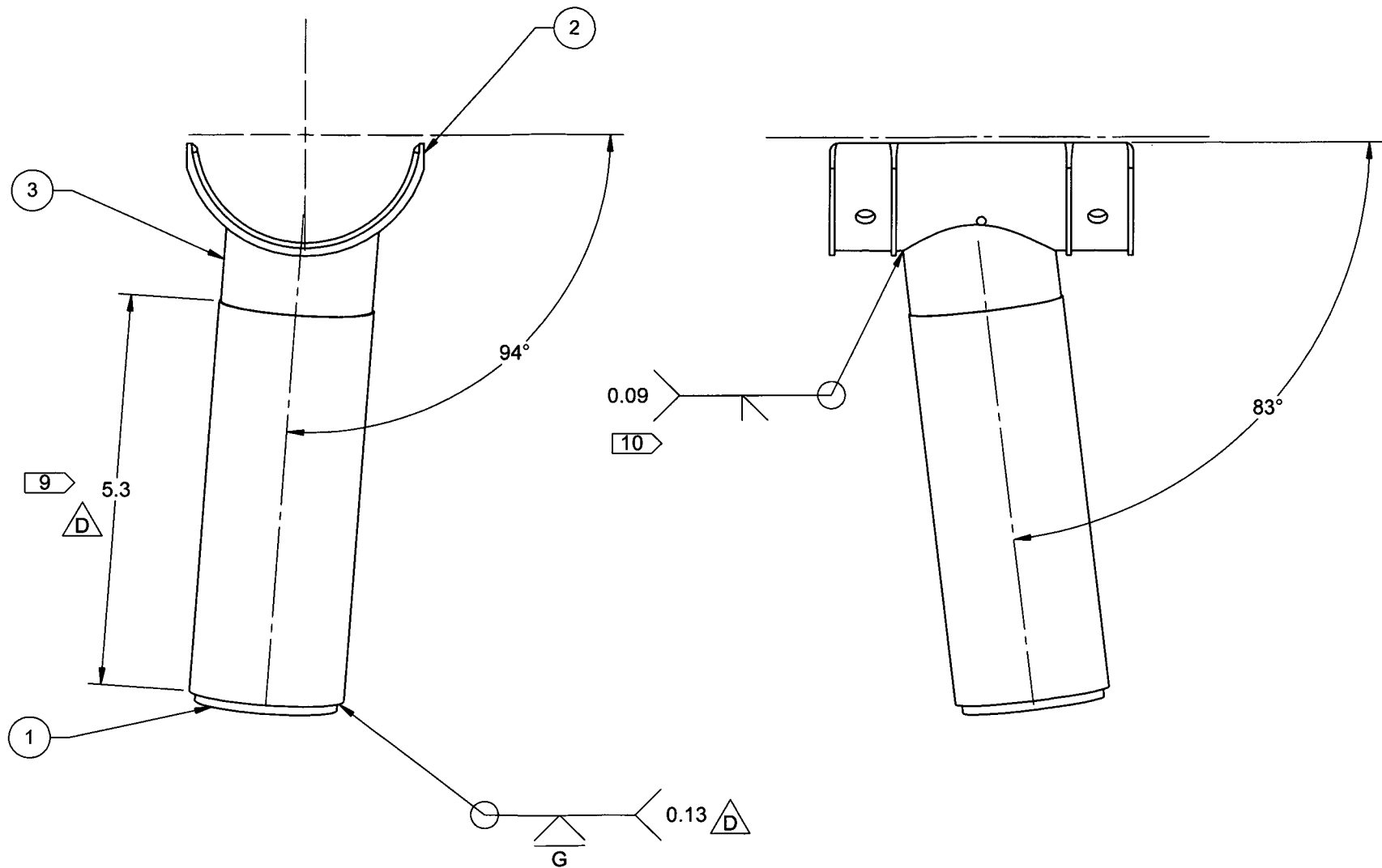
- NOTES:
- 1) MATERIAL: N/A
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.67 lbs
  - 8) WELDING PER DART QSI 004
  - 9) APPLY BLACK ANTI-SKID PAINT TO STEP TUBE, ALL AROUND PER DART QSI 005 4.4
  - 10) ALIGN D5149-3 FWD STEP WITH EDGE OF ALIGNMENT HOLES IN D5149-1 FWD STEP BASE PRIOR TO WELDING

**RELEASED**  
2015-11-04

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DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	<b>D5149</b>	SHEET 3 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
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ITEM	QTY-043W	P/N	DESCRIPTION
	X	D5149-043W	AFT STEP BASE WELDMENT
1	1	D5149-5	STEP CAP
2	1	D5149-7	AFT STEP BASE
3	1	D5149-9	AFT STEP



D5149-043W AFT STEP BASE WELDMENT

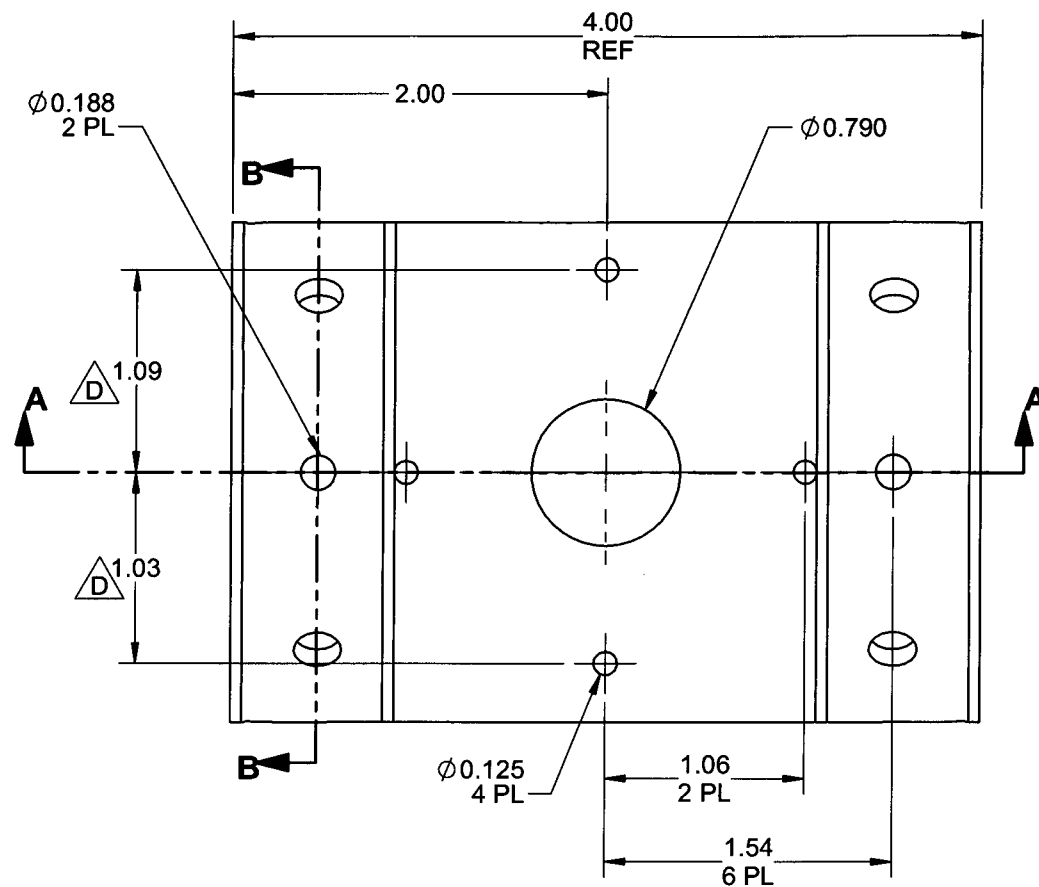
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.67 lbs
- 8) WELDING PER DART QSI 004
- 9) APPLY BLACK ANTI-SKID PAINT TO STEP TUBE, ALL AROUND PER DART QSI 005 4.4
- 10) ALIGN D5149-9 AFT STEP WITH EDGE OF ALIGNMENT HOLES IN D5149-7 AFT STEP BASE PRIOR TO WELDING

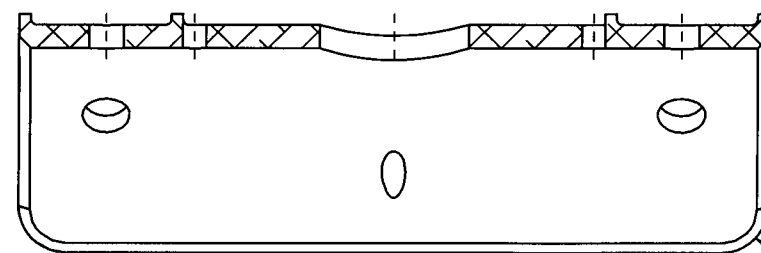
DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO. <b>D5149</b>	REV. D
MFG. APPR.	DD		SHEET 4 OF 11
APPROVED	WM	TITLE <b>STEP ASSEMBLY</b>	SCALE NTS
DE APPR.	DS		
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2015-11-04

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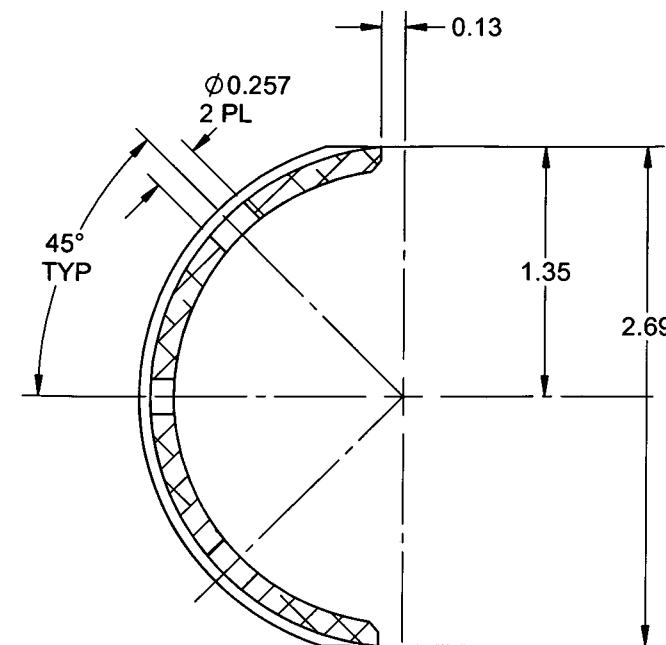


**D5149-1 FWD STEP BASE**  
(MAKE FROM D5149-1TRN)

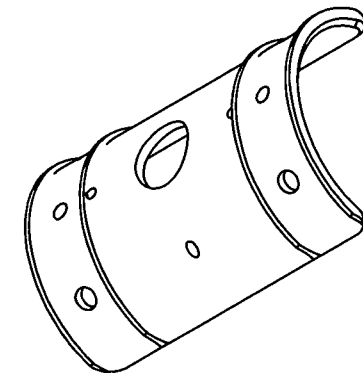


**SECTION A-A**

0.06 X 45° CMF  
ALL AROUND INSIDE EDGE



**SECTION B-B**  
2 PL



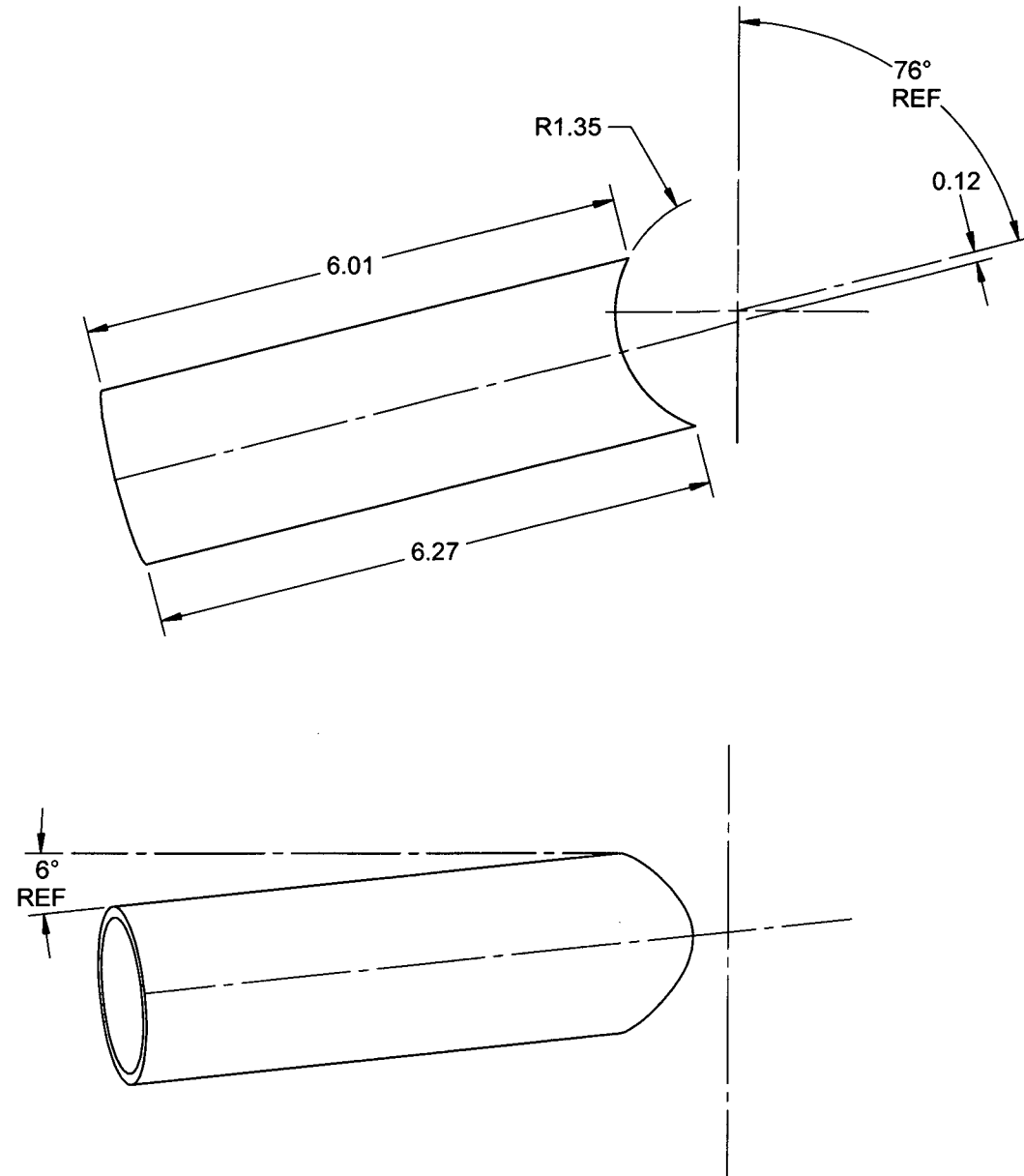
**NOTES:**

- 1) MATERIAL: MAKE FROM D5149-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.20 lbs

**RELEASED**  
2015-11-04

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DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	<b>D5149</b>	SHEET 5 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
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**D5149-3 FWD STEP**

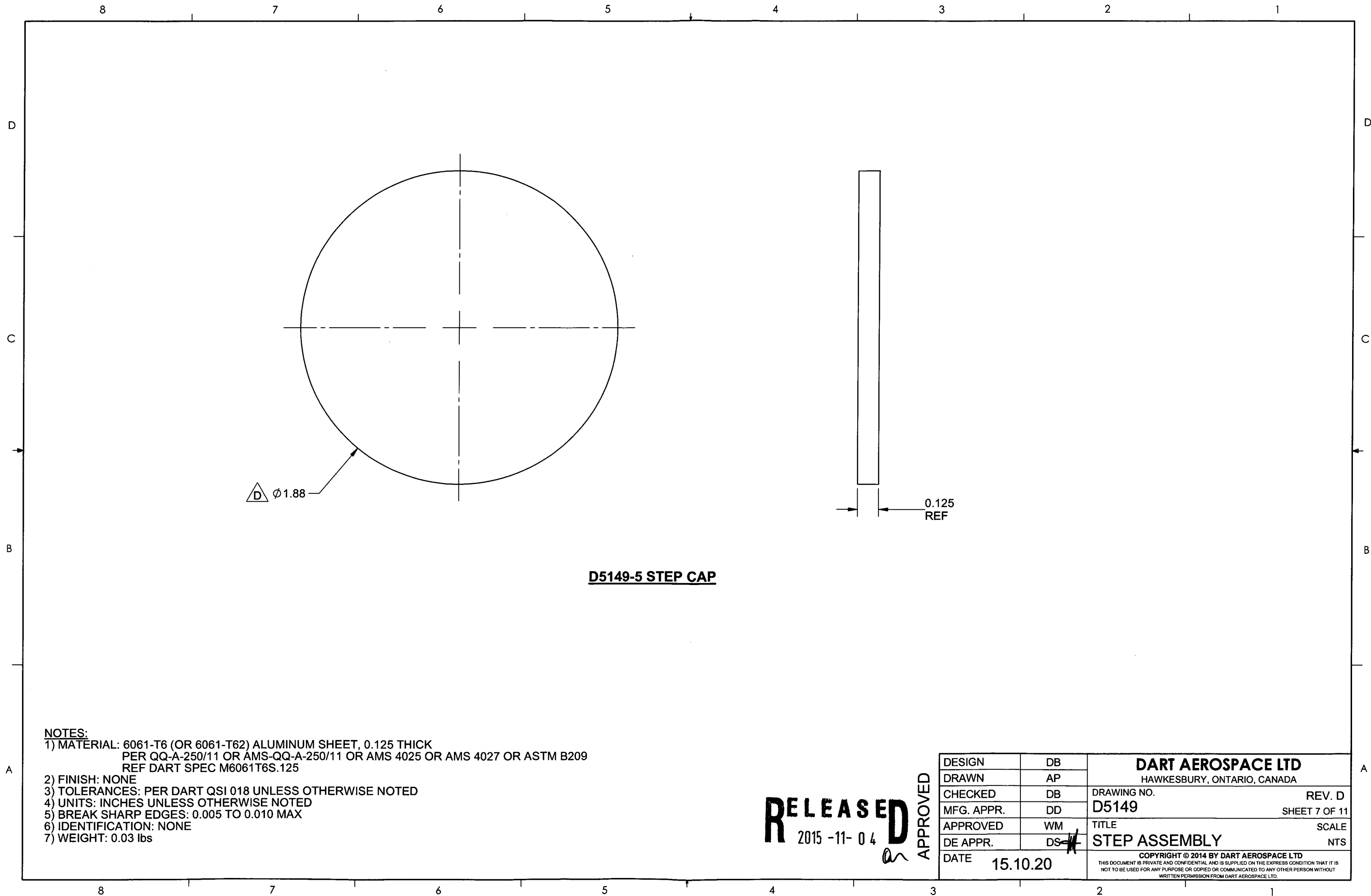
**NOTES:**

- 1) MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241  
REF DART SPEC M6061T6T2.000W0.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.42 lbs

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2015 -11- 04

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DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO. <b>D5149</b>	REV. D
MFG. APPR.	DD		SHEET 6 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
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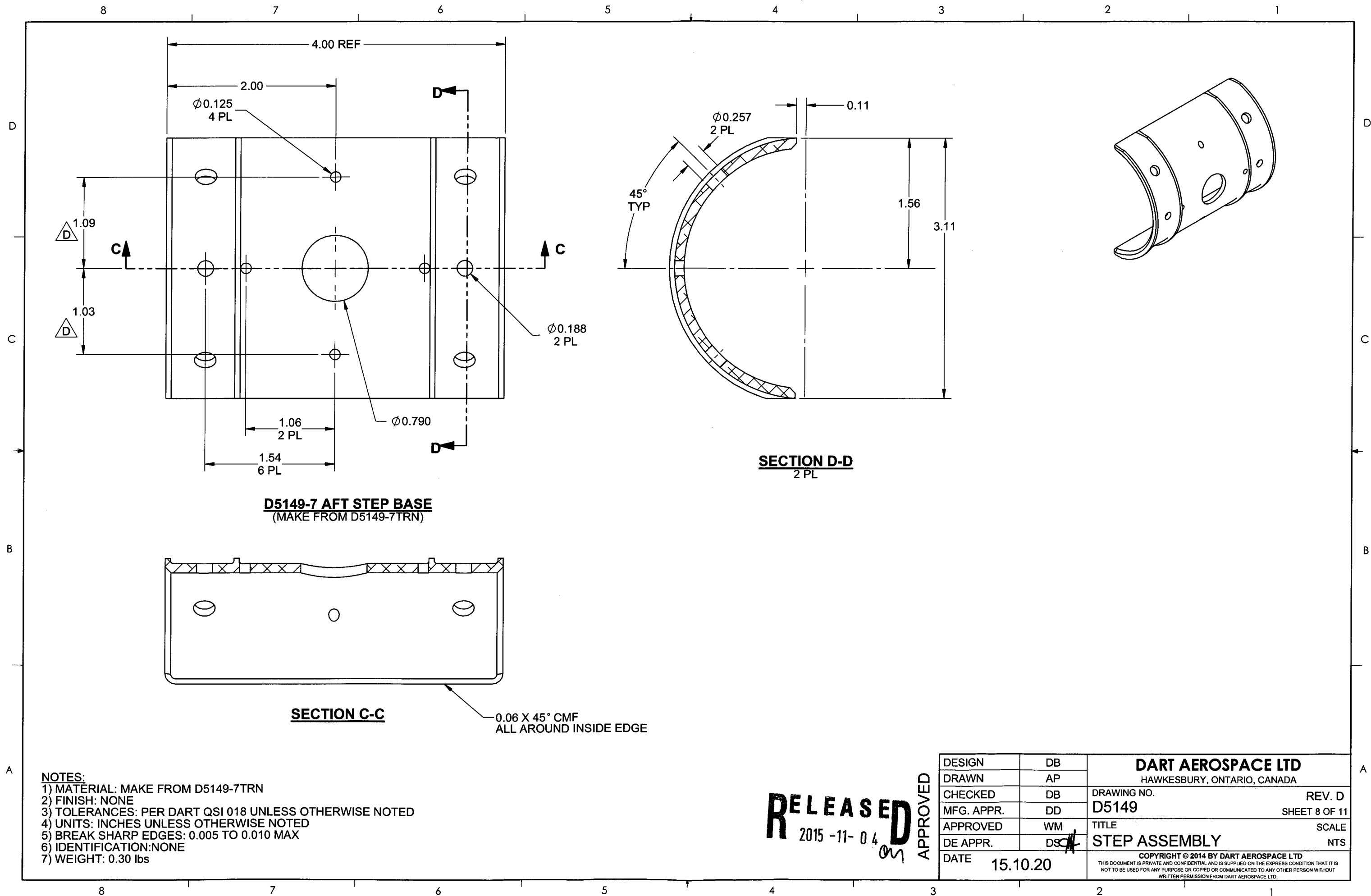
**NOTES:**

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 0.125 THICK  
PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209  
REF DART SPEC M6061T6S.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.03 lbs

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2015-11-04

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DS

DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO. <b>D5149</b>	REV. D
MFG. APPR.	DD	SHEET 7 OF 11	
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
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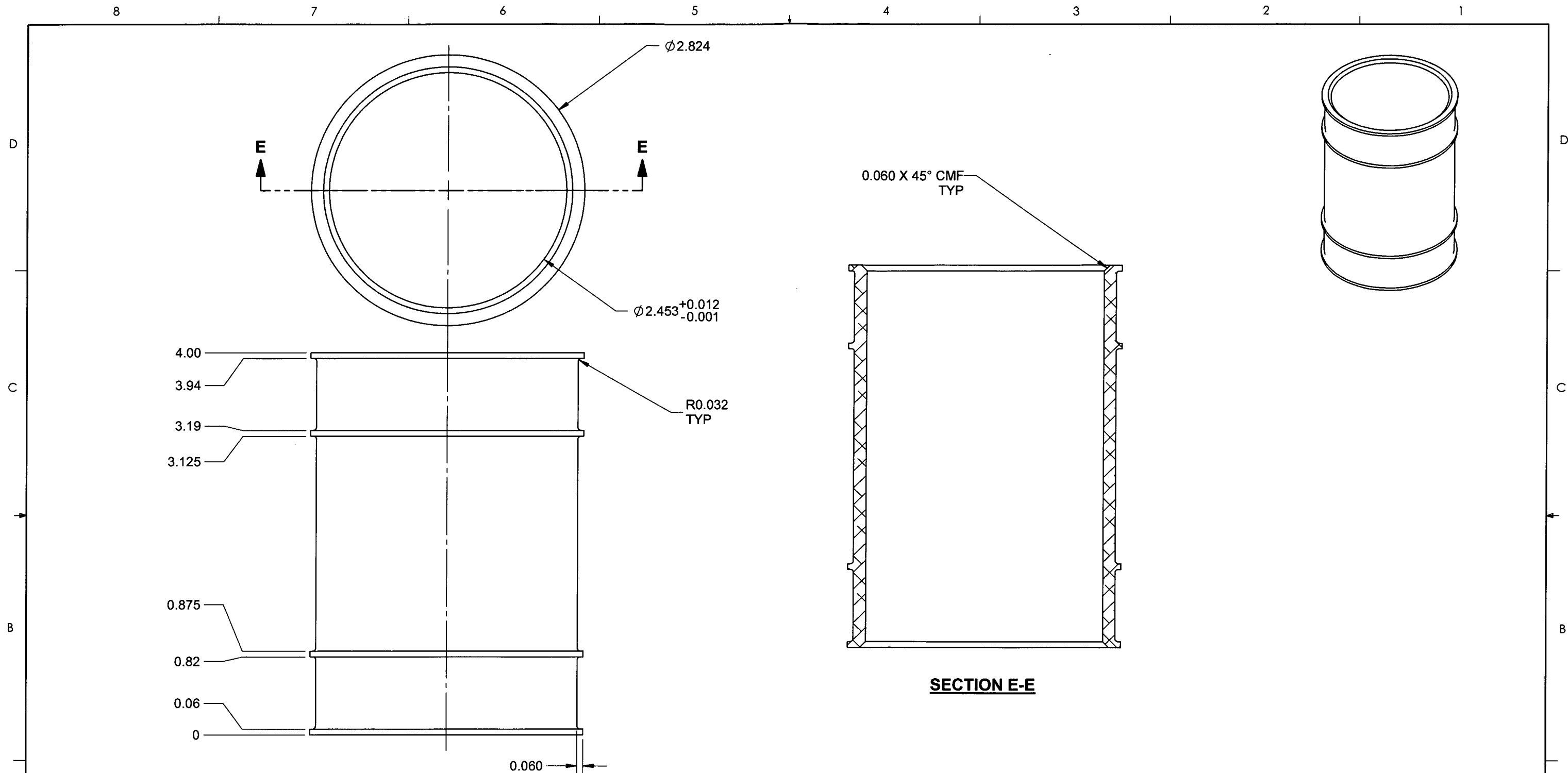


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DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	D5149	SHEET 8 OF 11
APPROVED	WM	TITLE	SCALE
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**D5149-1TRN TURNING DETAIL**

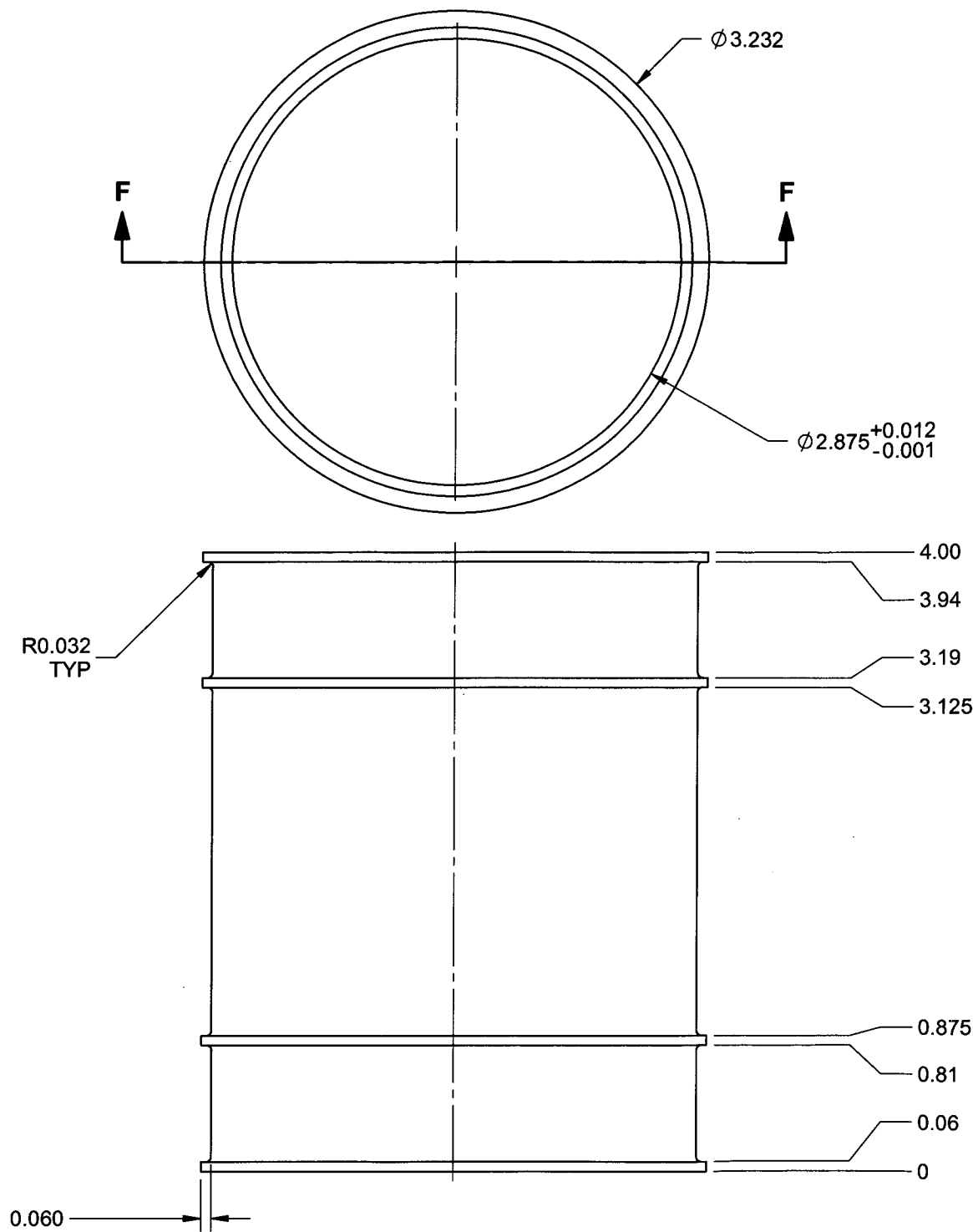
**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221  
REF DART SPEC. M6061T6R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.41 lbs

**RELEASED**  
2015-11-04

APPROVED

DESIGN	DB	<b>DART AEROSPACE LTD</b>	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	<b>D5149</b>	SHEET 9 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
DATE	15.10.20	<small>COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



**D5149-7TRN TURNING DETAIL**

**NOTES:**

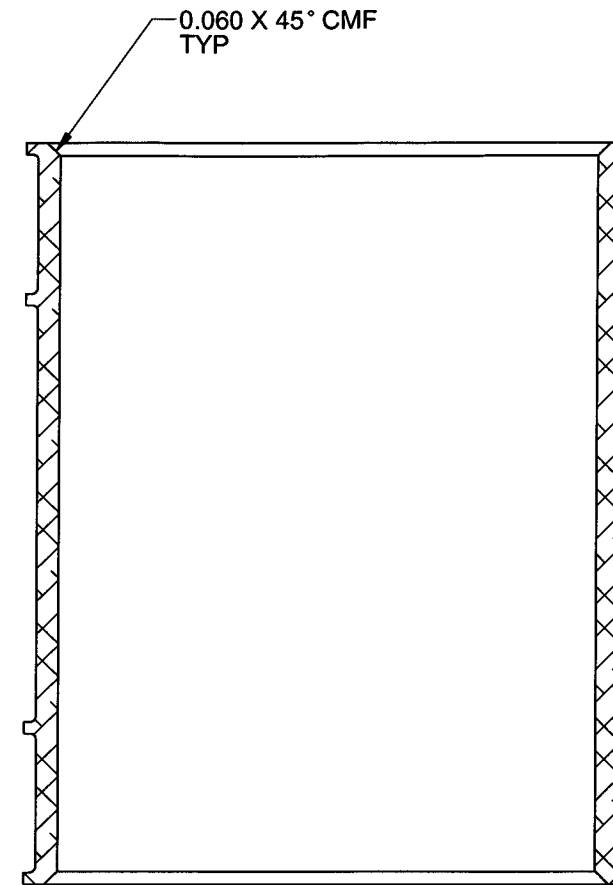
1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221  
REF DART SPEC. M6061T6R

2) FINISH: NONE  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: NONE  
7) WEIGHT: 0.41 lbs

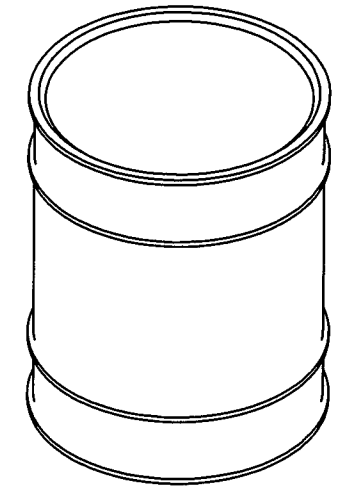
**RELEASED**  
2015-11-04

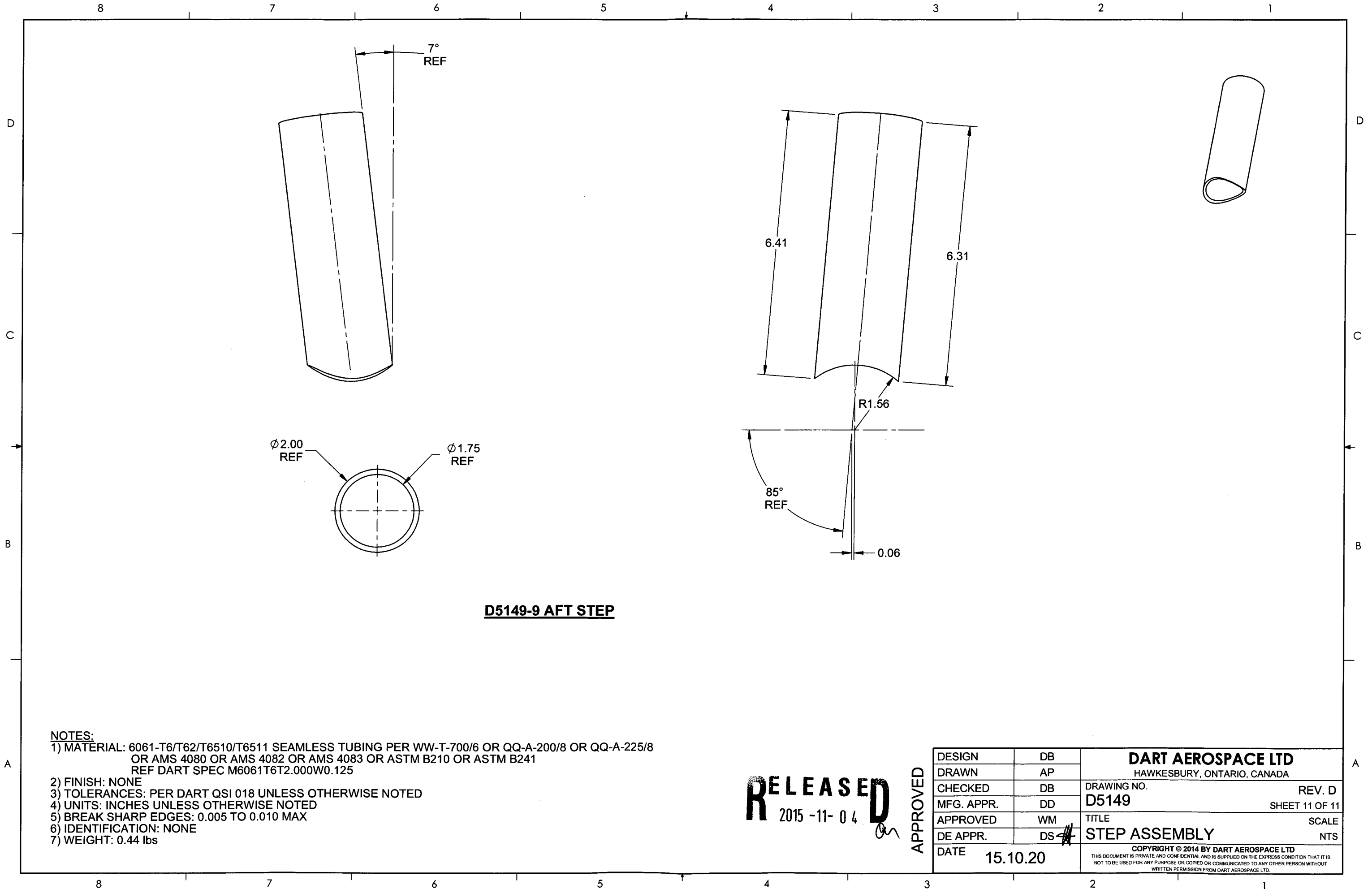
APPROVED

DESIGN	DB	<b>DART AEROSPACE LTD</b>	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DB	DRAWING NO.	REV. D
MFG. APPR.	DD	D5149	SHEET 10 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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**SECTION F-F**





NOTES:

- 1) MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241  
REF DART SPEC M6061T6T2.000W0.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.44 lbs

RELEASED  
2015-11-04

APPROVED

DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO. <b>D5149</b>	REV. D
MFG. APPR.	DD		SHEET 11 OF 11
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	<b>STEP ASSEMBLY</b>	NTS
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